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| 10/040,578      | 12/28/2001  | David J. Long        | 50277-1766          | 3641             |

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EXAMINER  
PHAM, CHRYSTINE

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
| 2122     |              |

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                    |  |
|------------------------------|--------------------------------------|------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/040,578 | <b>Applicant(s)</b><br>LONG ET AL. |  |
|                              | <b>Examiner</b><br>Chrystine Pham    | <b>Art Unit</b><br>2122            |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7 October 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This action is responsive to application 10/040578 filed on December 28<sup>th</sup> 2001. Claims 1-32 are presented for examination.

***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

4. Claims 13, 29, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the step of maintaining a table" in line 1. There is insufficient antecedent basis for this limitation in the claim. For compact prosecution of the claim, limitation "the step of maintaining a table" has been interpreted as referring to limitation "maintaining a table" recited in line 2 of claim 10.

Claim 29 recites the limitation "the step of maintaining a table" in line 1. There is insufficient antecedent basis for this limitation in the claim. For compact prosecution of the claim, limitation "the step of maintaining a table" has been interpreted as referring to limitation "maintaining a table" recited in line 3 of claim 26.

Claim 32 recites the limitation "the method of claim 17" in line 1. There is insufficient antecedent basis for this limitation in the claim. For compact prosecution of the claim, limitation "the method of claim 17" has been replaced with "the computer-readable medium of claim 17".

**Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

6. Claims 1, 2, 5-7, 17, 18, 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by McGurrin et al. (US 5913063), hereinafter, *McGurrin et al.*.

**Claim 1**

*McGurrin et al.* teach a method of specifying a structure, within a computer system (e.g., see FIG.2 & associated text), of an instance (e.g., see 102, 104, 106 FIG.1 & associated text) of a class (e.g., see 130 FIG.1 & associated text; see *instance, new object class, child form* col.3:13-40; see 302 FIG.3 & associated text), the method including the step of:

- o associating with said instance of said class an attribute (e.g., see *button attribute, child form, parent object class, new object class* col.3:30-40) that is not in said class or any superclass (e.g., see 304 FIG.3 & associated text; col.6:60-col.7:16) of said class (e.g., see 108, 110, 112, 114, 116, 118 FIG.1 & associated text; col.4:28-52; see 306 FIG.3 & associated text), thereby establishing for said instance said structure that includes storage (e.g., see *object library module*

508 FIG.5A & associated text) for data associated with said attribute (e.g., see 132, 134, 136 FIG.1 & associated text ; see 308 FIG.3 & associated text).

#### **Claim 2**

The rejection of base claim 1 is incorporated. *McGurrin et al.* further teach wherein the step of associating further includes the steps of:

- establishing a property bundle (e.g., see *object library module 508* FIG.5A & associated text) that is associated with one or more attributes that are not in said class or any super class of said class (e.g., see *happy 514, surprised button 516, sad button 518* FIG.5A & associated text; col.8:1-32); and
- associating said instance with said property bundle (e.g., see *form frame 512* FIG.5A & associated text; see *forms* col.4:5-52).

#### **Claim 5**

The rejection of base claim 1 is incorporated. *McGurrin et al.* further teach wherein said step of associating includes establishing a pointer from said instance to a property bundle (e.g., see *pointer, attribute* col.12:65-col.13:42).

#### **Claim 6**

The rejection of base claim 5 is incorporated. *McGurrin et al.* further teach wherein said step of associating includes establishing a pointer from said attribute to said property bundle (e.g., see *pointer, attribute* col.12:65-col.13:42).

#### **Claim 7**

The rejection of base claim 1 is incorporated. *McGurrin et al.* further teach wherein a property class (e.g., see 308 FIG.3 & associated text) contains said attribute (e.g., see 306 FIG.3 & associated text).

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**Claim 17**

*McGurrin et al.* disclose a computer-readable medium (e.g., see *memory 204, data storage device 207* FIG.2 & associated text) carrying instructions (e.g., see *visual coding tool* col.6:37-51) for specifying a structure, within a computer system, of an instance (e.g., see *102, 104, 106* FIG.1 & associated text) of a class (e.g., see *130* FIG.1 & associated text; see *instance, new object class, child form* col.3:13-40; see *302* FIG.3 & associated text), the instructions including instructions for performing the step of:

- o associating with said instance of said class an attribute (e.g., see *button attribute, child form, parent object class, new object class* col.3:30-40) that is not in said class or any superclass (e.g., see *304* FIG.3 & associated text; col.6:60-col.7:16) of said class (e.g., see *108, 110, 112, 114, 116, 118* FIG.1 & associated text; col.4:28-52; see *306* FIG.3 & associated text), thereby establishing for said instance said structure that includes storage (e.g., see *object library module 508* FIG.5A & associated text) for data associated with said attribute (e.g., see *132, 134, 136* FIG.1 & associated text ; see *308* FIG.3 & associated text).

**Claims 18, 21-23**

Claims recite limitations, which have been addressed in claims 2, 5-7, therefore, are rejected for the same reasons as cited in claims 2, 5-7.

**Claim Rejections - 35 USC § 103**

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

8. Claims 3, 4, 8-12, 19, 20, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *McGurrin et al.* in view of *Maimone* (US 6418451), hereinafter, *Maimone*.

**Claim 3**

The rejection of base claim 2 is incorporated. *McGurrin et al.* do not expressly disclose storing within a database, objects that define said instance, said property bundle, and said one or more attributes. However, *Maimone* teaches storing within a relational database (e.g., see *relational database* 12 Fig.1 & associated text), objects that define said instance, said property bundle, and said one or more attributes (e.g., see FIG.2 & associated text; see *relational database, object, class, attributes, property bag* col.2:30-50). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *Maimone* into that of *McGurrin et al.* for the inclusion of the database. And the motivation for doing so would have been to enable objects of an object-oriented environment (i.e., classes and class instances/objects) to be persisted in database tables wherein data can be accessed independently of how the data is actually structured. In particular, data residing in one table (e.g., objects/instances of a class) can be manipulated (i.e., added, modified, or deleted) without affecting the data in another table.

**Claim 4**

The rejection of base claim 1 is incorporated. *Maimone* further teaches maintaining an object relational mapping system that indicates a correlation between said instance and data stored in a relational database (e.g., see FIGS.1,2 & associated text; col.3:5-col.4:45). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *Maimone* into that of *McGurrin et al.* for the inclusion of object relational mapping system. And the motivation for doing so would have been the same as recited in claim 3.

**Claim 8**

The rejection of base claim 1 is incorporated. *Maimone* also discloses associating a key with said attribute wherein said key (e.g., see *column* col.1:35-50) identifies said attribute (e.g., see *attribute, employee ID* col.1:35-50).

**Claim 9**

The rejection of base claim 8 is incorporated. *Maimone* also discloses wherein said key is a user-defined key (e.g., see *column*, *SQL*, *ALTER TABLE command* col.2:1-11).

**Claim 10**

The rejection of base claim 1 is incorporated. *Maimone* also discloses maintaining a table that includes an entry that indicates that said instance is associated with said attribute (e.g., see 20-32 FIG.2 & associated text; see *table*, *rows*, *column*, *attribute*, *employee ID* col.1:35-50).

**Claim 11**

The rejection of base claim 10 is incorporated. *Maimone* also discloses maintaining said entry to include a key that identifies said attribute (e.g., see *column*, *attribute*, *employee ID* col.1:35-50).

**Claim 12**

The rejection of base claim 10 is incorporated. *Maimone* also discloses maintaining said table externally to said instance (e.g., see 10, 12 FIG.1 & associated text; see FIG.2 & associated text).

**Claims 19, 20, 24-28**

Claims recite limitations, which have been addressed in claims 3, 4, 8-12, therefore, are rejected for the same reasons as cited in claims 3, 4, 8-12.

9. Claims 13-15, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *McGurrin et al.* in view of *Tock et al.* (US 6128771), hereinafter, *Tock et al.*.

**Claim 13**



The rejection of base claim 1 is incorporated. *McGurrin et al.* do not expressly disclose maintaining said table internally to said instance. However, *Tock et al.* disclose maintaining a hash table internally to a class instance (e.g., see *Database Object class 182, object\_hash\_table 140* FIG.4 & associated text). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *Tock et al.* into that of *McGurrin et al.* for the inclusion of a hash table internal to a class instance. And the motivation for doing so would have been to enable fast data storage and retrieval by means of a key value and a hash function as well known in the art.

#### **Claim 14**

The rejection of base claim 1 is incorporated. *Tock et al.* also disclose storing into said instance a hash table (e.g., see *Database Object class 182, object\_hash\_table 140* FIG.4 & associated text); and locating an entry in said hash table for said attribute (e.g., see *objectID, new entries* col.8:35-40).

#### **Claim 15**

The rejection of base claim 14 is incorporated. *Tock et al.* do not expressly disclose receiving data that is designated as a key for locating said entry in said hash table; and using said data as said key to locate said entry without determining whether said data conforms to software rules. However, this feature is deemed inherent in the teaching of *Tock et al.* since the retrieval of data stored in a hash table requires receiving a key value by which a key comparison can be made by the hash table's search algorithm.

10. Claims 16, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over *McGurrin et al.* in view of The Java Virtual Machine Specification (The class File Format, <http://java.sun.com/docs/books/vmspec/html/ClassFile.doc.html>), hereinafter, *JVM Spec.*

#### **Claim 16**

The rejection of base claim 1 is incorporated. *McGurrin et al.* do not expressly disclose wherein the class is a file type and said instance is a tile of said file type in a file system wherein the step of associating includes associating with said file of said file type an attribute that is not associated with said file type or any super class of said file type. However, *JVM Spec* discloses a class is a file type and said instance is a file of said file type in a file system (e.g., see *section 4.1 ClassFile* pages 1-6) wherein the step of associating includes associating with said file of said file type an attribute that is not associated with said file type or any super class of said file type (e.g., see *section fields[]* page 5). It would have been obvious to one of ordinary skill in the pertinent art at the time the invention was made to incorporate the teaching of *JVM Spec* into that of *McGurrin et al.* for the inclusion of an instance of a file type. And the motivation for doing so would have been to enable class analysis (without loading the class) and synthesis.

#### **Claim 32**

The rejection of base claim 17 is incorporated. Claim recites limitations, which have been addressed in claim 16, therefore, is rejected for the same reasons as cited in claim 16.

#### **Conclusion**


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chrystine Pham whose telephone number is 571-272-3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 4, 2005



**TUAN DAM**  
**SUPERVISORY PATENT EXAMINER**